

## CLAIMS

The embodiments of an invention in which an exclusive property or right is claimed are defined as follows:

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- 1 1. A polarization controlled optical energy source comprising:
- 2 a laser source element having an inherent polarization characteristic; and
- 3 a polarization medium positioned in proximal relation to the laser source
- 4 element and adapted to select and attenuate the polarization characteristic equally.
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- 1 2. The source of Claim 1, wherein said laser source element is disposed within a
- 2 component package having an emission aperture formed therein.
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- 1 3. The source of Claim 2, wherein said polarization medium provides linear
- 2 polarization.
- 3
- 1 4. The source of Claim 3, wherein said laser source element has multiple distinct
- 2 polarizations oriented with respect to one another at angular intervals.
- 3
- 1 5. The source of Claim 4, wherein said polarization medium is aligned to provide
- 2 linear polarization along an axis that equally selects and attenuates the distinct
- 3 polarizations.
- 4
- 1 6. The source of Claim 1, wherein said laser source element is a vertical cavity
- 2 surface emitting laser.
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7. The source of Claim 6, wherein said vertical cavity surface emitting laser is disposed within a component package having an emission aperture formed therein.

8. The source of Claim 7, wherein said polarization medium provides linear polarization.

9. The source of Claim 8, wherein said laser source element has two distinct polarizations that are normal to one another.

10. The source of Claim 9, wherein said polarization medium is aligned to provide linear polarization along an axis that is at about 45 degrees to both distinct polarizations.

11. The source of Claim 10, wherein said polarization medium is affixed to the component package spanning the emission aperture.

12. The source of Claim 10, wherein said polarization medium is disposed within the component package between the vertical cavity surface emitting laser and the emission aperture.

13. The source of Claim 10, wherein said polarization medium is formed from a sheet polarization material.

14. The source of Claim 10, wherein said polarization medium is formed by the application of polymer-based polarization material.

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1 15. A method for VCSEL polarization control comprising the steps of:  
2 providing a VCSEL element having an inherent polarization characteristic;  
3 providing a polarization medium; and  
4 positioning the polarization medium in proximal relation to the laser source  
5 element to select and attenuate the polarization characteristic equally.  
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1 16. The method of Claim 15, wherein the step of providing a polarization medium  
2 further comprises providing a polarization medium that provides linear polarization.

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1 17. The method of Claim 16, wherein the step of providing a VCSEL element further  
2 comprises providing a VCSEL element having two distinct polarizations that are normal  
3 to one another.  
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1 18. The method of Claim 17, wherein the polarization medium is aligned to provide  
2 linear polarization along an axis that is at about 45 degrees to both distinct  
3 polarizations.  
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1 19. The method of Claim 15 further comprising the steps of:  
2 providing a component package having an emission aperture formed in a  
3 surface thereof;  
4 disposing the VCSEL element within the component package; and  
5 affixing the polarization medium to the component package spanning the  
6 emission aperture.  
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20. A vertical cavity surface emitting laser component comprising:  
a package base, having a first self-aligning feature formed therein for indicating  
an alignment axis;  
a vertical cavity surface emitting laser device, having two emission polarizations  
normal to one another, disposed upon the package base and aligned such that each  
emission polarization is at about 45 degrees with respect to the alignment axis;  
a package cover, having a second self-aligning feature and an upper surface  
aperture formed therein, coupled to the package base such that the first and second  
self-aligning features matably engage; and  
a linear polarization element, having a polarization direction, spanning the  
aperture and disposed such that the polarization direction is parallel to the alignment  
axis.